

## REMARKS

Claims 6 to 10 are pending.

Applicants respectfully request reconsideration of the present application in view of this amendment.

The drawings were objected to for not being in formal format. Although not believed necessary at this time, Applicants are submitting herewith formal drawings. A copy of the formal drawings submission is attached hereto. Accordingly, Applicants respectfully submit that the objection to the drawings has been overcome with the submission of the formal drawings (as requested by the Examiner).

Claims 6 to 8 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,611,916 to Yoshizumi ("Yoshizumi reference") in view of U.S. Patent No. 3,635,552 to De Lang ("De Lang reference").

Claims 7, 8 and 10 depend from claim 6. Claim 6 was amended in Applicants' last paper and currently recites a tunable interferometer for measuring an optical surface having, among other features, *an analyzer*. This analyzer is positioned at an output of the interferometer, has a variable polarization state, and tunes the interferometer as a function of the polarized first interference beam and the second interference beam, wherein depending on the polarization state of the analyzer, an additional phase is introduced into at least one of the first and second interference beams of different polarizations so that an interference fringe pattern is displaced by a distance.

Both the Yoshizumi and De Lang references do not teach or suggest all of the features of claim 6 of the present application.

The Yoshizumi reference, filed in 1984, purportedly concerns an optical measuring apparatus which teaches focusing measuring light by the objective lens 6 and radiating a surface on an object 7 to be measured. The object 7 is fixed on a carrier 14 and is moved along in the X and Y directions. Col. 3, lines 31-41. Thus, not only does the Yoshizumi reference *not have an analyzer* in its device, but also the Yoshizumi reference in effect *teaches away* from claim 6 of the present application. Instead of a moving test object as in the Yoshizumi reference, claim 6 of the present application uses an analyzer to tune the interferometer. In fact, the present application specifically discusses its aim to not use a moving object, but instead a completely different technique at the Specification, page 5, lines 17-29, stating in part: "It must be emphasized once

again that when tuning conventional interferometers, reference surface 40 or test object 50 must be moved or tilted. However, interferometer 10 according to the present invention can be tuned without it being necessary to move reference surface 40 or the test object.”

The De Lang reference, filed in 1970, also does not teach or suggest all of the features of claim 6 of the present application. The De Lang reference, according to Fig. 1, appears to involve a light source 1 arranged in the focal plane of a lens 2 which strikes a semipermeable dividing mirror 3 at an angle of 45 degrees; the semipermeable mirror 3 transmits one half of the incident beam to reference mirror 5 and reflects the other half to an object 4 to be tested, e.g., a mirror; a linear polarizer 8 and  $\lambda/4$  plate 6 are arranged in the light path between mirrors 3 and 4; and, a linear polarizer 9 and a  $\lambda/4$  plate 7 are arranged in the light path between mirrors 3 and 5. Col. 2, lines 28-44. After reflection by the mirrors 4, 5, the De Lang reference recites that the polarized light is converted into circularly polarized light by the plates. The De Lang reference does not teach or suggest the present invention of claim 6 – and, the De Lang reference cannot be properly combined with the Yoshizuma reference because the two reference involve different techniques, different systems and different elements. In addition, the Yoshizuma reference, reportedly moving a test object to tune an interferometer, effectively teaches away using any other devices available such as the analyzer announced in the 1972-published De Lang reference.

Accordingly, Applicants respectfully submit that both the Yoshizuma and De Lang references, together or alone, do not teach or suggest the invention of claim 6; and claim 6 is allowable. Claims 7, 8 and 10 depend from claim 6 and are allowable for at least the same reasons as claim 6. Withdrawal of the rejection of claims 6 to 8 and 10 under 35 U.S.C. § 103(a) over the Yoshizuma reference in view of the De Lang reference is respectfully requested.

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Yoshizuma and De Lang references in view of U.S. Patent No. 5,627,666 to Sharp et al. (“Sharp reference”).

Claim 9 depends from claim 6 and is allowable for at least the same reason(s) as claim 6 as explained above.

The Sharp reference does not cure the deficiencies of the Yoshizuma or De Lang references. The Sharp reference appears to concern a liquid crystal phase modulator using

cholesteric circular polarizers, where a phase modulator has an electro-optically rotatable smectic liquid crystal half-wave retarder in combination with a cholesteric liquid crystal circular polarizer. The Sharp reference mentions using liquid crystal cells which have optic axes which are rotatable upon application of an electric field, and to increase the tuning range more than one smectic liquid crystal cell is used in series. Col. 2, lines 35-46. The Sharp reference does not appear to teach or suggest using an analyzer, such as that required in claim 6 (and thus, claim 9) of the present invention, to tune an interferometer.

Accordingly, Applicants respectfully submit that the Yoshizuma, De Lang and Sharp references, together or alone, do not teach or suggest the invention of claim 9; and claim 9 is allowable. Withdrawal of the rejection of claim 9 under 35 U.S.C. § 103(a) over the Yoshizuma and De Lang references in view of the Sharp reference is respectfully requested.

Note that, in addition to the other requirements for a 35 U.S.C. § 103(a) rejection, the prior art is required to *disclose or suggest each claim element and* it must also provide *a motivation or suggestion for combining the elements in the manner contemplated by the claim.* (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990). See also In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted; emphasis added).

It is respectfully submitted that claims 6 to 10 are allowable and that the rejections of claims 6 to 10 under 35 U.S.C. § 103(a) should be withdrawn.

### CONCLUSION

In view of all of the above, it is believed that the rejections of claims 6 to 10 have been obviated, and it is respectfully submitted that all claims 6 to 10 are presently allowable. It is therefore respectfully requested that the rejections be withdrawn, and that the present application issue as early as possible.

If it would further allowance of the present application, the Examiner is invited to contact the undersigned at the contact information shown below.

Respectfully submitted,

By: Ainda Study  
Reg. No. 47084

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By: Richard L. Mayer  
Richard L. Mayer  
(Reg. No. 22,490)

KENYON & KENYON  
One Broadway  
New York, New York 10004  
(212) 425-7200 (telephone)  
(212) 425-5288 (facsimile)

**CUSTOMER NO. 26646**